Lesson 51 - Chemicals In The Household Environment

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1. Introduction

1.1 The Unhealthiest Place To Live

Over half of your life is spent inside your home. Yet it may be the unhealthiest place you can be. Chemicals, pollutants, and toxic substances can surround you in your house and can create a number of health problems. You may never realize how dangerous household chemicals can be until it is too late. This lesson tells you about the most common household pollution hazards and how you can avoid them for better health.

You may think that you are safe in your own home. After all, the air pollution is on the freeways, and the poisoned waters are in the industrial rivers. But the foul air and water are also in your home, and much of it is brought in by your family. Here is one area where a natural and hygenic lifestyle can provide immediate benefits to all family members.

1.2 The Household Chemical Problem

Just for a start, look around you and count the various chemicals found in your house. Over the course of a year, the average home will contain *forty-five* aerosol sprays, another two dozen nonspray chemical cleansers, several insect killers and repellents, paints and paint thinners, spot removers, room fresheners, natural gas leakages, and so on.

Inside your house alone are more chemicals (in floor polishes, oven cleansers, detergents, etc.) than were found in any major chemistry lab of a century ago! Worse yet, we do not understand anything about these chemicals, how they should be used, and the toxic effects that accompany their use.

Labels list dozens of unpronounceable and unrecognized chemicals in all sorts of household products. It is foolish to believe that all are harmless and that they can be safely used.

An experienced homemaker cannot handle most chemicals properly. For example, one woman dragged her small oven outside to clean it. She did not, quite rightly, want the fumes from oven cleaners in her house. Unfortunately, while spraying the oven outside in the wind, the spray blew back into her eyes and permanently blinded her.

Housewives and children are allowed to handle dangerous chemical compounds that experienced chemists would not touch unless they had on protective gloves. Not only that, but the toxins and pollution from these common household products can eventually poison all the members of a family

without their knowledge.

A family in a rural area had a problem with flies in their house while they were eating. To combat the problem, they hung a "No-Pest" insecticide strip over their table to keep the insects away. After a few weeks, three of the four family members were hospitalized for acute pesticide poisoning. The anti-pest strip they had thought was safe had nearly killed them with its "fallout" over their food.

Besides the sheer quantity of new chemicals in the home environment, another problem arises from the multiple use of these products. For example, cleansers may be mixed or other chemicals may be used together. When combined, these household chemicals can produce deadly byproducts. This combination of one or more household chemicals produces what is called a *synergistic* effect which means that the total effect of the mixed chemicals is greater than the individual chemicals used separately.

Homemakers do not actually have to even mix various cleansing agents, etc., together to create this dangerous synergistic effect. Simply having the vapors from one cleaning lingering in the air which may then combine with other chemical vapors can have a toxic effect on the individuals. In fact, within the average American home, at least once a day two aerosol sprays are used within a half hour of each other. These sprays can combine in your house to form toxic fumes.

We often improve our diet and our health, but we may neglect the source of potential health problems: the chemicals in our own home. This lesson identifies the more common household chemicals in use, and how you can avoid them by adapting a new lifestyle along the teachings of Life Science.

2. The Chemicals In Your Home

Dangerous household chemicals are usually disguised in common products. Everything from underarm deodorants to frying pan spray contains toxic ingredients. Almost all of these chemical products can either be completely eliminated by following a healthy, hygienic lifestyle or by using a more natural substitute. This portion of the lesson lists most common household chemicals and how you can avoid them.

2.1 Aerosol Sprays

The first living creature to die from an aerosol spray was a mosquito in 1942. Since then, much more than just insecticides have appeared in spray cans. Antiperspirants, feminine hygiene sprays, underarm deodorants, oven cleaners, spot removers, floor wax, varnish, and anti-fogging agents have appeared in thousands of aerosol and spray products.

Aerosol sprays are a major source of air pollution within the home. The sprays spread out into the surrounding air and make it unfit to breathe. This is especially true in closed spaces (like the bathroom) where the sprays are used most often.

A study by Du Pont Laboratories revealed that the amount of freon propellant in front of the faces of users of hair spray and deodorant to be dangerously high even when these rooms were heavily ventilated by an exhaust fan. You can imagine the serious injury that results from years of breathing these fumes in an enclosed house.

The particles and chemicals in aerosol sprays are often so small that they can penetrate the lung tissue and be directly absorbed into the bloodstream. Thus, a chemical which might be relatively harmless if used externally quickly becomes an internal poison when sprayed in easily inhaled particles.

Just how harmful are these fumes from the aerosol sprays? Dr. William Good of Montrose, Colorado, made a study of 200 people. The only thing these people had in common was that they were all heavy users of sprays in their homes. Without exception, every person in the group had precancerous lung cell changes.

2.2 Hair Today—Gone Tomorrow

Perhaps the most dangerous of all these sprays is the hair spray. These sprays are always used in closed quarters (like the bathroom or beauty parlor). They are emitted near the face, and the air breathed is heavily contaminated.

The hair spray itself contains shellac, starch, and plasticizers which may be toxic enough to form enlarged lymph nodes. The FDA reported on twenty-three women who were daily users of hair spray. All of their X rays showed precancerous lung changes. After six months of stopping the use of hair sprays, fifteen of the women completely recovered.

Hair sprays also contain silicone which is damaging to the eyes and cannot be washed away by the natural eye fluids. An irritation of the cornea often develops in users of hair sprays.

Of course there is no valid reason to use hair sprays except for reasons of "beauty" or appearance. Freshly-washed and combed hair should be enough to make a healthy person truly beautiful, but if you are attached to having "set" hair, then you should use a setting gel or lotion instead of a spray.

These gels and lotions also contain noxious fumes and chemicals, but the danger is less than when using hair sprays. The sincere health seeker, however, will abandon all such artificial hair care products. Clean air is healthy and attractive. A more natural manner of wearing the hair will end the need for all such artificial products.

2.3 Does Your Nose Smell—Or Do You?

Americans stink. At least that's what the advertisers would have us think. Underarm deodorants, antiperspirant sprays, feminine hygiene deodorants, air fresheners, and room sprays are aggressively promoted and advertised. But how necessary are such odor disguisers, and more importantly, how safe are they?

Most anti-odor sprays and chemicals are totally unnecessary concoctions that serve no purpose. The most blatant example of this is the feminine hygiene deodorant sprays. In a trade magazine for such spray manufacturers, an article states: "Such is the American way of advertising and persuasion that even the best smelling ladies began to feel insecure and wonder if they were offending—and so another new market was born."

While these feminine sprays may make the manufacturers rich, they also contribute to health problems. The sprays are irritants and often contain talc that is contaminated by asbestos, a known cancer-causing agent. Many gynecologists have reported cases of vulvar irritation by their patients who used such sprays.

Sprays are also used to fight bad breath and other body odors. All of these contain chemicals which are both breathed and deposited directly on the skin. Underarm sprays, for example, work by actually clogging the sweat pores with an aluminum chloride compound.' Mouth sprays kill all bacteria in the mouth, including the so-called beneficial variety.

Besides these sprays, there are also foot deodorizers and hair fresheners. Evidently most people stink greatly or think they do because the amounts of spray and roll-on deodorants sold is enormous.

Why do people smell bad and feel that they must use some chemical to deodorize their bodies?

Basically, an improper diet is the cause of all body odors in almost every case. Foods of animal origin (meat, eggs, milk, etc.) are poorly assimilated and full of foul-smelling toxins. When these foods are

eaten, the waste products are eliminated from the skin and an unpleasant odor results. When all animal foods, junk foods, and sugar are eliminated from the diet, all body odors eventually disappear.

A Natural Hygienist or a person who follows the suggested Life Science diet will never experience bad body odors. Unpleasant odors from the body indicate that something is wrong in the diet or lifestyle. Covering or hiding these odors with sprays and chemicals does not correct the underlying problem which causes these smells.

If body odor is a problem, then frequent washing is the best short-term solution and an improvement in the diet is the only long lasting answer. Spraying and applying chemicals to every body orifice can cause irritation and damage. The person concerned about his health and well-being will quickly abandon all such products.

2.4 Home, Sweet Home?

Next to American bodies, the smelliest place may be the home. Cooking odors, cigarette smoke, furnace emissions, and bathroom odors seem to permeate our households. Many people try to remove these odors with air fresheners, such as sprays, wicks, candles, cakes, etc.

All of these air fresheners work in one of four ways: 1) They use one odor to cover another; 2) They coat the nasal passages with an oil film; 3) They deaden the sense of smell with a nerve chemical; or 4) They deactivate the unwanted odor (such as through charcoal absorption).

Actually, very few deodorizers work by actually removing the odor. Most simply contaminate the air with another foreign substance, and certainly do not "freshen" the air. Many times an artificial fragrance is released that simply smells stronger than the offending odor. These fragrances often irritate the eyes and air passages.

More remarkable are the air fresheners that do their work by temporarily "killing" or deadening the sense of smell. This is sort of like blinding yourself to avoid seeing an unpleasant sight. One such air freshener, advertised for use in the "nursery," contains carbolic acid which causes serious burns and tissue destruction when applied to the skin.

There is one safe and recommended air freshener: an open window. A healthy lifestyle will also mean that most household odors will never even occur. For example, cooking and grease odors are common in meat-eating households. Cigarette, cigar, and pipe smoke are also common contributors to the foul air problem. A nonsmoking household that follows a predominantly raw food diet will never experience most of the household odors that plague many Americans. A well-ventilated house will also mean an end to odors. Even in the winter, the house should be opened briefly to allow a healthy exchange of air between the inside and the outside.

2.5 How Clean Is Your Kitchen?

The most dangerous and physically harmful of all household chemicals are the cleansers—oven cleaners, detergents, scouring powders, toilet bowl cleaners, bleaches, drain cleaners, and so on. Most of these chemical cleaners are not needed; indeed, many safe substitutes exist. Many people continue using these harmful household chemicals simply because they are not aware of their dangers.

2.6 Oven Cleaners

"Danger: May cause burns to skin and eyes. Irritant to mucous membranes. Danger—contains lye. Keep out of reach of children. Do not get on exterior surfaces. Keep away from electrical connections. If taken internally or sprayed into eyes, call physician."—from the label of "Easy-Off Oven Cleaner."

Oven cleaners harmed over 3,000 people in one year alone. Their sprays contain powerful chemicals that drift around the kitchen and penetrate the skin, eyes and lungs. Worse yet, these dangerous, unpleasant

chemicals are hidden by added fragrances so they are more likely to be breathed in.

And such cleaners are totally unnecessary. True, ovens can become the filthiest area of any kitchen. But if the diet is changed so that meat is eliminated and all cooking is curtailed, then the oven will not become dirty or require an extensive cleaning. If cooking does occur, any splattering should be cleaned up as soon as the oven cools. Only when stains and drippings are continually reheated and baked does a strong cleaning agent become necessary.

Better yet, eliminate the messy oven. The hygienic or Life Science diet advocates a 100% raw food diet. Some people even sell their stove or use it as a counter area when they adopt the all raw diet. Even if cooking is still used at times, it should be in the form of steaming or occasional baking. Such conservative food preparation practices eliminate the dirty oven, the harmful cleaners, and the hours of work spent in cooking and cleaning.

2.7 Other Household Cleaners

Drain cleaners are similar to oven cleaners. They too have a high percentage of lye and they attack waste and grease buildup from food disposal. Drain and toilet cleaners account for about 10,000 injuries every year. Worse yet, if the drain remains clogged after the cleanser is poured in, then a dangerous caustic solution develops which gives off toxic fumes.

Bleaches are often used in the house, and great care must be taken not to mix bleaches with other cleansers. In November 1975, a 68-year-old Maine woman mixed bleach with ammonia to remove egg stains from a window. When she brought the pail of mixed bleach and ammonia into the house, the fumes killed her. The woman's niece discovered her and tried to give mouth-to-mouth resuscitation. She was also killed by the fumes in the house.

Toilet bowl cleaners are either the in-bowl or in-tank variety. The in-bowl cleaners contain extremely strong acids and release fumes. The in-tank cleaners are almost ineffective, according to Consumer Reports, in either removing stains or odors.

Scouring powders contain a bleaching agent and a coarse polishing agent. Over 22,000 people in 1973 received hospital treatment for injuries associated with scouring powders and other caustic cleaning agents.

What's left to help you clean your house? Well, first remember that most cleaning should be mechanical and not chemical. Dirt, dust, and stains can usually be removed with a simple and harmless detergent and some work. All in all, almost every chemical household cleaner can be replaced by a combination of one or more of these simple and inexpensive products: soap, baking soda, vinegar, borax, and ammonia. With the exception of ammonia (which has noxious fumes), all of these are totally harmless when used by themselves to aid cleaning.

Here are some ideas on how to use these substances as a substitute for the expensive and toxic household cleaners:

General surface cleaning: Several tablespoons of vinegar dissolved in a bucket of water. Baking soda may be used to scour surfaces.

Bleaching: Use borax instead of chemical bleaches. It whitens without harming the fabric, regardless of color or weave.

Utensil cleaning: A diluted solution of ammonia (caution) can be used for really greasy pots and pans. Of course if you are following a correct diet, you will not have "greasy" utensils at all.

Oven cleaning: Again, this should not be needed on a proper diet. If it does require cleaning, use baking sodas a scouring powder and ammonia to cut through the grease. Always be careful to avoid breathing ammonia fumes.

Drain Cleaning: Slow drains can be opened by pouring hot water down them, and then adding about a

half cup of washing soda. Wait a minute, and then flush again with hot water. A small plunger can be used to unclog and loosen the drain.

2.8 Whiter Than White And Other Laundry Lies

Detergents and soaps are the most bought-and-used item of any product in the grocery store—including milk, bread, or any other food. They also cause more poisonings than any other household product. During 1975, for instance, over 1,300 laundry soap detergent and dishwasher product poisonings occurred.

Part of the problem is that many consumers do not understand the difference between ordinary soap and synthetic chemical detergents. Ordinary soap is relatively harmless, and has been used for thousands of years. The new detergents, however, are all chemical products from the last thirty years.

While soap is just soap, detergents are often soap along with foam boosters, perfumes, enzymes, cleaning agents, fillers, and optical brighteners.

A person who rubs just a few grains of synthetic detergent into the eye can receive corneal burns and severe eye damage. Ingestion of these products cause serious harm to the upper digestive tract. Clothes washed in some detergents become permeated with artificial perfumes and other irritating fumes.

Enzyme detergents are thought to cause dermatitis (a skin condition) and flulike and asthmatic conditions from breathing the air with detergent dust.

These steps can be taken to reduce harm from such cleaners: First, try to use ordinary soap or an organic cleaner instead of the chemical detergents. Don't overuse detergent—most people, according to a Consumer's Union survey, use at least twice as much detergent as is required. Don't mistake detergent for soap—never wash the skin with detergents and keep away from the mouth. To help with soiled clothes, prewash them with washing soda and then use common soap.

2.9 Other Sources Of Household Chemicals And Pollutants

It may seem that chemicals are all through the average household. In almost every room, some synthetic chemical compound can be found: mouthwash in the bathroom, dishwashing liquid in the kitchen, air freshener in the bedroom, a small gas leak in the living room, furniture polish in the dining room, paint thinner in the garage, and so on.

You may find it difficult to eliminate every chemical compound in your home, but you should start asking yourself if it is really needed or if a safer substitute can be found. This is a quick overview of other dangerous household chemicals:

Tobacco Smoke: Smoke from cigarettes contains over 3,000 chemical compounds. Although the dangers of smoking are covered in another lesson, it should be pointed out here that tobacco smoke can quickly and completely pollute the entire house even if only a single cigarette is smoked in one room. Smoking is bad enough outside, but inside a home it can be deadly to smoker and nonsmoker alike. If you live with smokers, you have three choices: 1) Stop living with them; 2) Complain long and loud until they stop; 3) Continue as before, but isolate the smoking to one room only and keep this room ventilated, even in the winter.

Insecticides and Pesticides: Many people routinely spray their house for roaches and other insect pests. The fumes from these sprays can linger for months, and be breathed continually by the inhabitants of the house.

The solution to the insect and pest problem in the home is to first make the house an unattractive spot for such creatures. Keep all areas clean, and learn that there may be a needed compromise in insect control and total eradication.

There are many ways of controlling insect pests naturally in the home. (Insecticides and pesticides for

the garden are discussed in a separate lesson.) Remove all gathering places for roaches, etc., from around the house and yard. Eliminate mosquito breeding grounds, or stock nearby ponds and lakes with larvae-eating fish. If pesticides must be used to control insects in the house, obtain the dry powder type that releases no fumes.

There are many natural ways to keep the insect population under control in your home. Another bonus of following the chiefly raw food Life Science diet is that insect populations tend to decrease when there is no cooked food leftovers or spills around the kitchen.

Heating Emissions: Although not a chemical pollutant, another source of household pollution is the heating system. This is especially true of people who use gas, coal or wood heat. The fumes from these types of heaters continually fill the room. Often the unlit gas heaters and ovens emit unburned gas into the room. No house should remain "air tight" during the winter. If the house is very well insulated, then a window should always be cracked to allow an exchange of air.

Other Pollutants: There are many other sources of pollution in the home. Noise pollution is often ignored, but excessive levels of noise around and in the house has detrimental health effects.

Low-level radiation from microwave ovens is also a source of "pollution" in the house, and such devices are best abandoned. If cooking is to be used, then gas or electric is safer than the microwave oven.

Dry-cleaning fluids, spot removers, lead paint, paint thinners, solvents, glues, and many other chemical compounds in the home can be dangerous if used improperly.

By simplifying your life, you will eliminate the need for all such chemical products. Here's how you can benefit by adopting a Life Science way of living in your home.

3. The Benefits of Natural Living in the Home

Most people see the immediate benefits that a natural diet and lifestyle can bring them. It is usually only later that this new way of life is completely introduced into the home. Here's a category description of how a Life Science regimen can improve your home living:

Personal Hygiene: The first thing you will notice after changing your diet and lifestyle is that you will no longer need 99% of all the personal hygiene care products sold. You can eliminate all underarm deodorants, all mouth-washes, all feminine sprays, all antiperspirants, and so on. Why? Because your body will always smell clean and fresh when you eat a simple diet of chiefly fruits, vegetables, nuts, seeds, and sprouts.

Kitchen Cleaning: When you change your diet to a predominantly raw one, your kitchen cleaning days will be over. No more greasy pots, pans, or ovens. You'll never need those harsh kitchen cleansers again.

Air Fresheners: When you eliminate cooking and smoking, your air will always smell clean in your home. Open windows and doors will ensure that you have a pleasant and healthy environment, free from obnoxious odors.

Other Ways: As you simplify and improve your life and diet, you will also want to make these changes in other areas. You will find that you need or want very few household chemicals or cleaners in your home. You'll search for safer and more natural ways to clean and upkeep your house. You'll discover the value of a natural way of living that will eliminate all dangers of household pollution and poisoning.

As a student of Life Science, you already know the vita! importance of having a clean body, mind, and diet. Now you should become aware that a clean and natural home is simply another way of expressing these new found values. Leave the chemicals behind in your "new" home, and keep your living environment healthy and pollution free.

4. Questions & Answers

After reading this lesson, I'm too scared to use any type of cleaner! Aren't you exaggerating about the dangers of these chemicals? We never hear anything bad about them on television.

> Certainly the risks of household cleansers and other chemicals in the home are much less than many other unhealthy practices. Yet prolonged use of these common chemicals do indeed lead to serious health problems, especially in the respiratory tract. Unintentional poisonings from such chemicals are very high, particularly among young children. You should not be afraid to clean, but you should rely more and more on simple *mechanical* cleaning—that is, use some armwork and physically remove the dirt. Don't depend upon chemical compounds to do your cleaning for you. Many years ago, about the only household cleanser available was soap and water. Homes have stayed remarkably clean by just using such simple and relatively natural ingredients. The simple truth is that most household chemicals are "convenience" items, just like there is now "convenience" (or "fast") food. What you gain in convenience is more than offset by dangers to your health in these products. By all means, clean your home, but don't chemicalize it!

Here's another source of chemicals in the home you didn't cover: cosmetics and toiletries.

> While attention was given to hair sprays and deodorants, perhaps not enough mention was made about these other chemicals that so many people put on their faces and bodies. Almost all cosmetics are either made from animal products or they are tested on animals in cruel ways (such as blinding rabbits to test eye shadow, etc.). Not only that, but almost all cosmetics contain chemicals which can harm the skin after years of use. Men, too, are guilty of using such things as aftershave lotion, cologne, and so forth. All of these substances contain irritating ingredients that are harmful when breathed or applied to the skin. The best makeup is a clear, smiling face. Reduce or eliminate these "personal" chemicals that so many people put on their bodies.

So many new houses are unsafe to live in because of their internal pollution. Could you comment on that?

> The new home owner must be very careful nowadays about the building and insulation materials used in a home. Much insulation has asbestos fibers and other particulants which can cause lung cancer in those that breathe it day in and day out. Many plywood sidings are impregnated with formaldehyde, and these fumes are slowly released into the new house over a period of months. Recently, thousands of people have been forced out of their new homes because of toxic fumes that emit from the building materials used in construction of the house. These problems can be avoided by always having an open source of ventilation (a heat pump works well in the winter for this purpose) and carefully investigating the types of material used in the insulation and siding.

Article #1: Radiation in Your Kitchen by Mike Benton

Do you want to live next door to a nuclear power plant? A stupid question, right? But think about this:

Over *five million* homes have their own little boxes of radiation sitting right in the kitchen. They're called microwave ovens.

Now comparing a microwave oven to a nuclear plant may seem silly. After all, a microwave oven doesn't even give off the same type of radiation as an atomic energy source or an x-ray machine. The radiation from a microwave oven is about like what you get from radar or what is called *low-energy nonionizing* radiation.

But that microwave oven sits in many a house. It's used day in and day out. It's a constant source of low-level radiation that penetrates through the house. Is the microwave oven dangerous? Yes!

A microwave oven is like a fallout shelter in reverse: It's a tight little box that is designed to keep the radiation in. If you have a perfect, tight box, then the radiation won't get out. But a microwave oven is *not* a perfect, tight box. Radiation does leak out, especially around the door and the seals of the oven.

There are government standards for "acceptable" leakage rates for microwave ovens. In other words, microwave ovens can leak a certain amount of radiation and still be considered safe.

There is no such thing as a safe dose of radiation. Dr. Karl Morgan, a researcher on the effects of radiation on human health, stated: "From 1960 to the present, an overwhelming amount of data have been accumulated that show there is *no safe* level of exposure and there is no dose of radiation so low that the risk of malignancy is zero."

How Microwaves Can Harm Us

Microwave ovens *do not* make the food cooked in them radioactive. Food cooked in a microwave oven is no more nor less harmful than any cooked food. Any time heat is applied to food, destruction of nutrients and alteration of food chemistry occurs. Consequently, microwaved food is not better for you just because it is cooked for a shorter time. Microwaves destroy food *faster* than conventional cooking methods, but they do not destroy food *less*.

The main reasons for recent concern about microwave ovens are:

1. Microwaves can interfere with the normal operation of certain heart pacemakers, as well as other electrical and electronic items.
2. The thermal effect of exposure to these waves may harm sensitive body cell tissue or organ function.
3. Microwave radiation can cause eye damage and cataracts and is suspected of causing other ailments, including nervous exhaustion.
4. Low-energy, nonionizing radiation may also be capable of causing detrimental health effects not fully understood or recognized as such.

Nobody Really Knows How Dangerous They May Be

There are safety standards for microwave ovens, and consumers feel safe that they are buying, government-regulated equipment. What is not generally known is that the Soviet Union, which has done more research on microwave radiation than any other country, has an acceptable radiation level for the public that is *one thousand times* stricter than U.S. levels.

Not only that, but the biophysicist, Dr. A.H. Frey, has discovered that the human nervous system reacts

to microwave exposure that is 300 times *below* the government standards for microwave ovens.

Older microwave ovens frequently leak more than new ones. Improper servicing, cleaning, and general wear cause radiation leakages to increase. If someone you know has a microwave oven, there are several steps you can take to minimize irradiation leakage:

- Never insert objects around the door seal.
- Examine the oven for shipping damage or damage through normal use.
- Do not tamper with or inactivate the oven safety interlocks.
- Frequently clean oven cavity, door and seals with mild detergent. Do not use scouring pads, steel wool, or other abrasives.
- Stay at least an arm's length away from the oven when it is in use and keep your eyes away from the door.

But Why Have One At All?

Microwave ovens are unnecessary convieniences. They were developed so foods could be cooked in a hurry. Just like TV dinners, precooked convenience foods, and fast foods, microwave ovens exist because people are too lazy or too unaware to provide good nutrition for themselves and their families.

So what if you can cook a frozen chicken in four minutes? Do you need to eat a chicken, frozen or otherwise? The truth is that the best foods to eat require no cooking and little preparation.

Fresh fruits, vegetables, seeds, nuts, and sprouts do not need to be microwaved, boiled, baked, or fried. They're delicious as they are, ready to eat. If any cooking is to be done to food, it should be light steaming which destroys as few nutrients as possible. You can't even steam for food in a microwave.

Like fast foods, microwave ovens are "fast cooking" and they are associated with the same sort of convenience orientation. For superior health, you should eat as few cooked foods as possible. And you certainly should not have a leaky box of radiation sitting in your kitchen!

Article #2: World's Most Polluted Place: The American Home!

"My, Is It Stuffy in Here!"

Most of us are keenly aware that America's air, especially in and around large cities and industrial complexes, is seriously and dangerously polluted. Most of us are aware that even the upper atmosphere is becoming so dangerously polluted as to pose a threat to plant and animal life.

Many of us are aware that the average American home is a hotbed of pollution and stands first as a source of aerial pollution. Further, it is only beginning to dawn on researchers that pollution in the home is a source of much disease and misery for our populace.

The relation of polluted air to such respiratory diseases as pneumonia, colds, bronchitis, asthma, sinusitus, and a long list of other diseases, many nonrespiratory in nature, has been only casually noted.

However, researchers are already indicting such pollution as a contributing cause to many human ailments if, indeed, not the primary or only cause.

Certainly little aggravates an ailing person more than aerial pollutants, for they not only make suffering more severe but so hamper the body's healing efforts as to prolong recovery.

If there is any right we must value and treasure above all others, it is the right to breathe pure air. We must not inadvertently deny ourselves the benefits of pure air by our own acts.

If you doubt that the air in your home is polluted, note the difference between it and outside air! You can tell it instantly upon passing from one to the other—*even if the outside air is polluted*. The air in homes has the pollution of the outside air plus that added in the home.

The primary source of polluted air in American homes is smoke, mostly from tobacco, but from sundry other sources too. Smoke has its tars, carbon dioxide, carbon monoxide, and many other poisons.

If this is not the case in nonsmoking homes, then human aerial excreta is usually the primary source of pollution! Trapped in closed houses are the wastes of our breathing. These contain carbon dioxide, carbonic acid, and yet other waste products. They are deadly to man and beast alike in concentrations such as they become in closed homes.

There is a whole catalog of pollution sources in homes. Not only is pollution BAD in itself but it is usually found in a situation that would be bad WITHOUT the pollutants! For the air in which pollutants are found is usually "stale" air, a term for air that has been seriously deoxygenized. Air that has been breathed in, in which combustion has occurred, has been heated from whatever means, or in which cooking has been conducted, is not only possessed of considerably less oxygen but also is possessed of considerable pollutants as a result.

Consider these sources of pollutants in the home:

- Air from the outside that is polluted to start with
- Tobacco smoke
- Furniture polishes
- Detergents
- Cleansers
- Aerosol cans of all descriptions
- Chlorine from tap water and bleaches
- Cosmetics (none are good!)
- Deodorant sprays
- Insect repellents
- Insecticides
- Powders
- Air sweeteners and deodorants
- Hair sprays
- Lotions and "perfumes"
- All drugs and "medicines"
- Preservatives emanating from foods during cooking
- Volatile oils
- Byproducts of frying food
- Ammonia
- Wastes from combustion of anything burned
- Human aerial excreta
- Alcohols and drinks
- Condiments and other irritants used in foods
- Byproducts of cooking, brewing, boiling, breathing, etc.
- Chemicals of all descriptions exposed to our air

- Antiseptics

Perhaps the most deliberate and criminal of pollution practices is smoking. Many babies are born nicotine addicts and, if reared in an atmosphere filled with smoke of their parents, may become addicted to nicotine without ever having smoked a cigarette.

If "fouling our nests" aerially is not bad enough there are other deleterious forms of pollution in the home, notably noise pollution from inside and outside (it's so bad as to be inescapable in most cities) and x-ray emissions from fluorescent lighting and from television.

Perhaps it is stale polluted air in homes that is largely the cause of more respiratory ailments in winter than in the summer.

In any event, we should be on guard against pollution as much as is commensurate with out circumstances. We should breathe air as fresh as possible as much as possible.

Article #3: Typical Compounds Found In Cleaning Agents

Name	Where Found	Purpose	Dangers
(Lye), potassium hydroxide, sodium hydroxide	oven and drain cleaners	chemically attack and dissolve organic matter	extremely dangerous to all parts of body, especially eyes
Ammonia	oven and window cleaners, wax removers	chemically attack and dissolve organic matter	strong concentrations attack skin, eyes, lungs
Sodium tripolyphosphate	coffeepot cleaners	water softener and building agent	strong concentrations attack skin, eyes, lungs
Sodium phosphate	cleaners, scouring powders	water softener and building agent	strong concentrations attack skin, eyes, lungs
Sodium silicate	dishwashing detergent	water softener and building agent	strong concentrations attack skin, eyes, lungs
Sodium metasilicate	dishwashing detergent	water softener and building agent	strong concentrations attack skin, eyes, lungs
Sulfuric acid	commercial drain cleaners	chemically attack and dissolve organic matter	extremely dangerous to entire body

Hydrochloric acid	drain cleaners, toilet cleaners	remove stains and deposits	extremely dangerous to entire body
Phosphoric acid	denture cleaners, metal cleaners and polish	remove stains, dissolve rust	extremely dangerous to entire body
Sodium hypochlorite	bleach chlorine	remove color, disinfect	dangerous to entire body; never mix with anything other
Calcium hypochlorite	bleach chlorine	remove color, disinfect	dangerous to entire body; never mix with anything other
Sodium perborate	Oxygen bleach, denture cleaners	remove color, disinfect	dangerous to entire body; mildly toxic
Sodium dodecylbenzene sulfonate	detergent	dissolve grease and oil	continued contact removes protective oil from skin

Article #4: Typical Potential Household Hazards In A Retail Merchandise Catalog

1. Tree fertilizer spikes
2. Insecticides for tree fogging devices
3. Carbon dioxide cartridges for bikes
4. Chain lube spray for motorcycles
5. Lithium grease
6. Gear grease
7. Brake fluid
8. Motor oils
9. Engine flush liquid
10. Auto-body repair
    a. aerosol spray can primer
    b. cream hardener
    c. epoxy repair kit
11. Batteries
12. Fire extinguishers
13. Polyurethane wood finish spray
14. Epoxy spray enamel

15. Wood stain
16. Masonry coating
17. Crack stop
18. Concrete etching acid crystals
19. Antiskid sand additives
20. Heavy-duty cleaners
21. Paint remover
22. Acrylic latex caulk
23. Brush cleaner
24. Mildew wash
25. Swimming pool chemicals
26. Water conditioners
27. Toilet bowl cleaner
28. Portable toilet antifreeze (propylene glycol)
29. Propane torch kits
30. Silicone
31. Rug shampoo
32. Laundry detergents
33. Boat supplies
    a. polyester materials
    b. epoxy materials
    c. epoxy marine enamel
    d. semi soft point (cuprous oxide)
    e. water repellents

Chemicals In The Household Environment: In-Depth Home Survey

Answer each of the following questions with "YES," "NO", or "UNCERTAIN". Some of the questions do not pertain exactly to chemicals in the house, but to all sources of unhealthy pollution (such as noise pollution, motor vehicle products, etc.) At the end of the survey, you will be able to rate your home for its safety.

Are the following aerosol sprays found in the home:

1. Hair sprays, tints or dyes?
2. Underarm deodorants?
3. Antiperspirants?
4. Shaving cream?
5. Feminine "hygiene deodorant"?
6. Medicines?
7. Is the home insulated with asbestos products?
8. Are there asbestos caulking materials around the home?
9. Are caulked surfaces sanded in the house?
10. Are air vents or ducts lined with fiber glass?
11. Are home repairs made with asbestos shingles?
12. Are loose asbestos materials stored around the house?
13. Are spot removers or dry-cleaning materials used in the home?

14. Are aerosol fabric finishes used?
15. Are antistatic agents used?
16. Are gloves worn when using spot removers?
17. Are aerosol spray starches used?
18. Do members of the family wear extremely flammable clothing?
19. Does dust accumulate in various parts of the house? (Be honest).
20. Is vacuum cleaner in poor running order?
21. Do sweeper bags become overfilled?
22. Are air-conditioner filters left unattended?
23. Are collector screens in clothes driers neglected?
24. Does drier vent fail to reach the outside?
25. Does ragweed grow near the house?
26. Is the ash chute unattended?
27. Is there a coal, natural gas, or heating oil furnace?
28. Has it not been checked this year?
29. Is there a gas stove without an exhaust hood? Was the pilot light for water heater or kitchen stove checked today?
30. Is there an attached garage?
31. Do family or neighbors ever warm up cars (let them idle) for long periods on cold mornings?
32. Is the house near a heavily traveled highway?
33. Does the refrigerator or air-conditioner leak coolant?
34. Is there a kerosene stove, lantern, or camping stove in the house?
35. Is there a fireplace which occasionally emits smoke in the house?
36. Are glowing charcoals ever carried indoors?
37. Is trash burned in the backyard?
38. Is aerosol floor polish, wax, or cleaner used?
39. Are aerosol furniture polish and wax used?
40. Are metal polish and cleaners used (silver, aluminum brass, and copper) without gloves?
41. Is rust remover kept around the house?
42. Are tarnish-preventing materials used?
43. Is aerosol rug cleaner or tack-down material used?
44. Are there open garbage bags at the kitchen counter?
45. Are garbage cans left open?
46. Are garbage cans left uncleaned especially during hot weather?
47. Is "junk" mail permitted to be sent to the house?
48. Is a garbage service used instead of mulching?
49. Do neighborhood pets get into the garbage?
50. Does garbage stand overnight in the kitchen?
51. Is a garbage disposal unit used?
52. Is an automatic trash compressor used?
53. Is there a failure to defrost and clean out the refrigerator often?
54. Are rotten and stale vegetables and fruits left in the storage room?
55. Is paint (oil-based) used for artistic work at home?
56. Is the hobby area poorly ventilated?
57. Are rocks polished without the use of a facial aspirator?
58. Is film developed in the house?
59. Is pottery baked at home?
60. Are home photographic, painting, and etching supplies stored outside a chemical hood?
61. Are wood lacquers in furniture finishing used?
62. Is metal work such as sculpting, welding, or etching done at home?
63. Are fast-fixing glue and cement kept in the house?
64. Are insecticides stored in the household?

65. Have any of these ever spilled?
66. Are garden pesticides used?
67. Are rooms used within three days after fumigation?
68. Are pesticides ever used before reading the instructions?
69. Are herbicides used?
70. Is the house unclosed when neighborhood trees are sprayed?
71. Is petroleum-based fly spray used in place of pest sticking paper?
72. Are doors and windows unscreened?
73. Is No-Pest Strip used?
74. Are mothballs stored where small children can get to them?
75. Are aerosol insect repellents used?
76. Are aerosol air fresheners or room deodorizers used?
77. Are aerosol disinfectants used?
78. Are germicides and disinfectants near where children are playing?
79. Is there a failure to aerate rooms after use?
80. Is the family overly germ-conscious?
81. Are strong soaps used in kitchen or laundry?
82. Are detergents used?
83. Are brighteners used?
84. Are laundry soap or detergent overused (beyond instruction amounts)?
85. Are soaps and detergents beyond the reach of infants?
86. Are rubber gloves not worn when using strong soaps?
87. Are there spilled laundry soaps and detergents in the house.
88. Is indoor lead-based paint present in the house?
89. Is lead paint removed without proper ventilation?
90. Is any of the paint cracking, peeling, and chipping?
91. Is a blowtorch used for removing the paint?
92. Are there old lead-based paint cans around the house?
93. Are unglazed pottery mugs for coffee, tea, fruit, juices, or soft drinks used?
94. Do children habitually play within fifty feet of a heavily traveled highway or where dirt is contaminated with leaded gasoline emissions?
95. Is gasoline stored in the house or garage?
96. Are aerosol antirust or lubricants in the house?
97. Are there waste oil cans in the house?
98. Is oil changed near the house?
99. Are commercial deicing agents used?
100. Has leaded gasoline been spilled on carport or in garage?
101. Is antifreeze kept away from children?

Are the following used at home:

102. Typewriter?
103. Hairdrier?
104. Loud vacuum cleaner?
105. Stereo?
106. Radio?
107. Television?
108. Electric mixer?
109. Power drill? .
110. Leaf chopper?
111. Children's toys?
112. Power chain saw?
113. Power lawn mower?

114. Metal garbage cans?
115. Lathe?
116. Vibrator?
117. Motorcycle?
118. Do persons have a habit of making phone calls late at night?

Are the following in the reach of children:

119. Oven cleaners?
120. Glass cleaners?
121. Bleaches?
122. Toilet bowl cleaners?
123. Scouring powders?
124. Are ammonia and bleach or acid cleaners ever mixed in the home?
125. Are rubber gloves worn when working with cleaners?
126. Are a large variety of cleaning agents purchased?
127. Are aerosol drain cleaners used?
128. Are aerosol oven cleaners used?
129. Are large amounts of plastic furnishings used around the house?
130. Is the family unaware of toxic emissions from burning plastics?
131. Does the car have a film (from plasticizers) on the windows?
132. Are furnishings made from PVC (polyvinyl chloride)?
133. Are PVC containers used for food products?
134. Are antifungicide paints used which contain mercury?
135. Has spilled mercury ever come from a broken thermometer?
136. Are mercury-treated seeds around the garden supplies?
137. Is there liquid mercury in the house?
138. Is an old microwave oven used?
139. Does! the microwave oven work improperly?
140. Do any family members sit quite close to a TV set?
141. Are there ultraviolet lamps in the house?
142. Is the house near high-tension electric wires?
143. Are black lights in the home?
144. Do members oversunbathe?
145. Is the home near locations containing powerful transmitters or defense electronic equipment?

Are the following stored in the house:

146. Paint solvents?
147. Paint thinners?
148. Paint removers?
149. Lighter fluid (charcoal or tobacco)?
150. Butane lighter containers?
151. Kerosene?
152. Are aerosol paint products used?
153. Are oily rags stored around the house?
154. Are there open cans of petroleum-based solvents with paint brushes?
155. Are cement solvents used?
156. Is the house aerated after painted until fumes decrease slightly?

Is Smoking allowed in the following:

157. Bedrooms?
158. Bathroom?
159. Living room?

160. Kitchen?
161. Recreation area?
162. Do smokers fail to honor nonsmoker rights?
163. Is the house not aired out after smoking and parties?
164. Is marijuana smoking permitted in the house?
165. Are aerosol utensil coating materials used?
166. Is the household ignorant of the use of utensil coatings by teenagers for sniffing?
167. Are there any poisonous plants in the house?
168. Are any in the reach of children?
169. Are fertilizers kept around the house?
170. Is the drinking water below standards for purity?
171. Is hot water used for cooking purposes?
172. Do drinking water pipes contain asbestos?
173. Do they contain lead?
174. Do they contain PVC (polyvinyl chloride)?
175. Is the house near a heavy industrial area?
176. Are the gutters dirty or downspouts blocked?
177. Are pool cleaners stored around the house?
178. Are water-conditioners kept around the house?
179. Is there a water-purifying device in the house?
180. Do the toilets ever back up into the bathtub?
181. Does the water have a cloudy look when taken from the tap?

Are the following around the house:

182. Lye and other corrosives?
183. Fireworks?
184. Matches?
185. Aerosol medicines such as decongestants and anti-fungus agents?
186. Are medicine cabinets unlocked or within reach of children?
187. Are medicines stored near food?
188. Are any old unmarked medicine bottles around?
189. Are any members of the household habitual users of drugs?
190. Are fire extinguishers left unchecked from year to year?
191. Is salt used to melt snow on walkways and drive?
192. Has there been a cutoff Christmas tree in the house this year?
193. Are aerosol decorative materials or cocktail chillers used?
194. Are there rats or other rodents in or near the house?
195. Are dogs, cats, or other large pets allowed indoors?
196. Do children play near dog or cat litter or in pet pens?
197. Is the pet ever infested with fleas or ticks?
198. Is there a protective screen on chimney to prevent bug and rodent entry?
199. Are there bird nests in rafters or bird droppings near the house?
200. Do the children have pet turtles?

Answers

Your Score: Count up the total number of "YES" answers. Some of these questions might not apply to you at all, but of all the questions answered, use this scoring:

Number Of Yes Answers To The Survey:

1. 80 or more: A very high chance for chemical contamination problems now exist.

2. 60 to 80 YES answers: Too many chances for chemical contamination probably now exist in your house.
3. 40 to 60 YES answers: A moderate chance for household pollution—initiate a clean-up action.
4. 20 to 40 YES answers: A relatively low chance for pollution in your home.
5. LESS than 20 YES answers: Congratulations!